

ABSTRACT

A nuclear fusion reactor including a structure for placing at least a portion of a liquid into a tension state, the tension state being below a cavitation threshold of the liquid. The tension state imparts stored energy 5 into the liquid portion. A cavitation initiation source provides energy to the liquid portion sufficient to nucleate at least one bubble having a bubble radius greater than a critical bubble radius of the liquid. A structure for imploding the bubbles produces imploded cavities. The temperature generated by the implosion process can be sufficient to induce a nuclear 10 fusion reaction involving the liquid. A method of providing nuclear fusion tensions a liquid, cavitates the tensioned to form at least one bubble, then implodes the bubble, wherein a resulting temperature is generated that is sufficient to induce a nuclear fusion reaction involving the liquid.